

CLAIMS

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1. An optical modulation element for modulating a light flux emitted from a light source according to image information,
5 wherein a transparent plate is formed on at least one surface thereof.
2. The optical modulation element according to Claim 1, wherein a polarizer is bonded to said transparent plate.
- 10 3. The optical modulation element according to Claim 1 or 2,
wherein the surface of said transparent plate is coated with a surface active agent, or treated for electrostatic protection.
- 15 4. A projection display device having an optical modulation element for modulating a light flux emitted from a light source according to image information, and projection means for magnifying and projecting the light flux modulated by said optical modulation element onto a
20 projection plane,
wherein a transparent plate is formed on the light emergent surface of said optical modulation element.
5. The projection display device according to Claim 4,
wherein an antireflection film is formed on at least one
25 surface of said transparent plate.

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6. The projection display device according to Claim 4 or
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wherein the thickness of said transparent plate is set
larger than the focal depth of said projection means.

5 7. The projection display device according to Claim 4 or
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wherein a polarizer is interposed between said
transparent plate and said projection means, said
transparent plate is made of a drawing resin, and the
10 optical axis of said transparent plate almost aligns with
the optical axis of said polarizer.

8. The projection display device according to Claim 7,

wherein said polarizer is composed of a polarizing layer
and a pair of substrates for sandwiching said polarizing
15 layer, and said transparent plate is made of the same
material as that of said substrates.

9. The projection display device according to Claim 7 or
8,

20 wherein said polarizer is bonded to said transparent
plate.

10. The projection display device according to any of
Claims 4 to 8,

25 wherein the surface of said transparent plate is coated
with a surface active agent, or treated for electrostatic
protection.

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11. The projection display device according to any of
Claims 4 to 10,

wherein said optical modulation element is mounted via a
mounting member on a color synthesizing prism for forming
5 said projection means, said mounting member includes a
mounting frame plate composed of first and second frame
members for sandwiching said optical modulation element, a
fixed frame plate to be in a fixed contact with the light
incident surface of said color synthesizing prism, and an
10 intermediate frame plate to be sandwiched between said
mounting frame plate and said fixed frame plate.

12. The projection display device according to Claim 11,
wherein said mounting frame plate is made of a resin
containing glass fiber.

13. The projection display device according to Claim 11,
wherein said mounting frame plate is made of metal.

14. A projection display device having an optical
modulation element for modulating a light flux emitted from
a light source according to image information, and
20 projection means for magnifying and projecting the light
flux modulated by said optical modulation element onto a
projection plane, said projection display device comprising:

a partition for surrounding said optical modulation
element via an air layer and thereby separating said optical
25 modulation element from said light source and said

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projection means,

said partition having a transparent plate fitted in a light incident window corresponding to the light incident surface of said optical modulation element, and a light
5 outgoing window for emitting the light flux modulated by said optical modulation element therefrom.

15. The projection display device according to Claim 14, wherein a fan for circulating air is located inside said partition.

10 16. The projection display device according to Claim 14 or 15,

wherein said polarizer is bonded to said transparent plate.

15 17. The projection display device according to Claim 14 or 15,

wherein the surface of said transparent plate is coated with a surface active agent, or treated for electrostatic protection.

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